A.D. 1821 . . . . N° 4600.

SPECIFICATION

OF

OWEN GRIFFITH.

TRUSSES.

LONDON:
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A.D. 1821 . . . . N° 4600.

Trusses.

GRIFFITH'S SPECIFICATION.

TO ALL TO WHOM THESE PRESENTS SHALL COME, I, Owen Griffith, of Trifan, in the County of Carnarvon, Gentleman, send greeting.

WHEREAS His most Excellent Majesty King George the Fourth did, by His Letters Patent under the Great Seal of that part of the United Kingdom of Great Britain and Ireland called England, bearing date at Westminster, the Eighteenth day of October, in the second year of His reign, give and grant unto me, the said Owen Griffith, my executors, administrators, and assigns, His especial licence, full power, sole privilege and authority, that I, the said Owen Griffith, my executors, administrators, and assigns, during the term of years therein mentioned, should and lawfully might make, use, exercise, and vend, within England, Wales, and the Town of Berwick-upon-Tweed, my Invention of "An Improvement in the Principle and Construction of Manufacturing or Making of Trusses for the Cure of Ruptures or Hernia in whatsoever Part or Parts of the Body it may be situated;" in which said Letters Patent there is contained a proviso that if I, the said Owen Griffith, shall not particularly describe and ascertain the nature of my said Invention, and in what manner the same is to be performed, by an instrument in writing under my hand and seal, and cause the same to be inrolled in His Majesty's High Court of Chancery within six calendar months next and immediately after the date of the said Letters Patent, that then the said Letters Patent, and all liberties and advantages whatsoever thereby granted, shall utterly cease, determine, and become void, as in and by the same, relation being thereunto had, will more fully and at large appear.

NOW KNOW YE, that in compliance with the said proviso, I, the said Owen Griffith, do hereby declare that the nature of my said Invention, and the manner in which the same is to be performed, are particularly described and ascertained in and by the Drawing hereunto annexed, and the following description thereof (that is to say) :—

My improved trusses for the cure of ruptures are made in the form of a hoop or band, and consist of one or more pieces of elastic steel or other proper material of sufficient elasticity and tenacity. They entirely surround the body, the ends being united either upon the pad or pads, or any other convenient part, in such a manner as to cause the strength lengthwise of the steel or other material employed to be brought into action, so as to assist its elasticity in retaining the rupture as soon as the body, by inhaling the breath, or otherwise expanding, fills the truss, and the power which a very slight band has when its two properties of longitudinal strength and elasticity are brought into action is very great indeed, and, but for its side curvatures, would be equal to that of a hoop surrounding a cask or other similar vessel; the side curvatures of the band upon the hips raise it above the front pad or pads, so that does not interfere with the motions of the thighs, but as it passes to the back it descends, so as to be nearly level with the center of the pad or pads. These curvatures will, however, be better understood by a reference to the Figures in the annexed Drawing, in all of which Figures the same letters apply to the same parts of the trusses and machines.

In Fig. 1, A, B, is the band for a single truss viewed in front. Fig. 2, a plan, and Fig. 3 a side view thereof. C, C, are the highest parts of the side curvatures, and D the lowest depression at the back. At E, E, &c. are adjusting holes, and at F, F, holes to rivet or secure the front pad plate to the band. G, the hole through which a bolt or screw passes to connect the ends of the band together. H, the plate of the back pad, made of elastic steel, and having two slits cut in it, dividing it's upper part into three. The band is inserted between the middle part or tongue I and the two outer parts, and is secured fast by means of the moveable tongue J, which is rivetted to the plate, being turned down between the two outside parts of the plate H and the tongue I, as shewn in Fig. 3.

Fig. 4 is the band of a double truss. This differs from Fig. 1, in both of it's ends B, B, being turned down, similarly to the end B in Fig. 1; in having also a second connecting band K fitted to it, with adjusting holes E, E, &c. at each end of it, and two back pad plates H, H. To this band are also affixed the two spring fastenings L, L, by means of the two screws M, M, &c., which pass through the holes F, F, &c., and also secure the band to the front pads. These spring fastenings L, L, have pins or studs N, N, affixed to them, which pass through the holes G, E, E, &c., and unite the parts of the band together when the springs are depressed, as is shewn on a larger scale in

Fig. 9. These springs can, however, be raised up and the pins withdrawn, and be kept in that situation in order to adjust the bands by means of the lifters O, O, being raised up to a right angle, and as shewn in Figures 7 and 8. Fig. 10 represents one of the lifters O shewn separately.

Fig. 5 is a plan of the double truss, Fig. 4, which, as well as the back pads, are represented as covered or padded with the usual materials, and having also the two front pads P, P, &c. affixed to it; and Fig. 6 is a front view of the same.

Figs. 11, 12, and 13 represent on a large scale another method of uniting the bands by means of a pin or stud Q affixed to an internal spring R, screwed or rivetted to the pad plates, as shewn in Figs. 12 and 13, and by dotted lines in Fig. 11. The moveable end of the spring R rests upon the face of a circular inclined plane S, which is fixed upon the axis T turning in the pad plate, and is secured fast upon that axis by means of a pin passing through both, as is shewn at U in Fig. 12. The axis is turned round by means of a ring V passed through it's head, as shewn in Figures 11 and 13. When the end of the spring R rests upon the top of the circular inclined plane S, the pin or stud Q is withdrawn, and the parts of the band can be taken asunder or adjusted at pleasure. But when the axis T is turned round a little more, the spring R falls off the top of the inclined plane, and the pin or stud is replaced in the holes E and G by the action of the spring, and the parts of the band locked together.

In Fig. 13 a section of one of the front pads is shewn as rivetted to the pad plate and covered as usual.

Fig. 16 is a front view of an umbelical truss, and Fig. 17 a plan of the same padded as usual. The band A is flat, having no side curvatures, as in the former ones described, and each end of it is furnished with adjusting holes E, E, &c. There is also a staple W affixed to the pad plate for the ends of the band A to pass through, and the spring L is bent to fit over it, as shewn in Fig. 18. Back pads and side curvatures may be added to this truss if required. The other trusses already described may also be worn with or without back pads at pleasure. The front pad or pads may be made of any required sizes or shapes as the cases may require, and they may be made either solid or hollow. In the double trusses both ends of the bands are fastened to their front pads by means of rivets, &c.; but in the single trusses one end only is made fast to the front pad, the other end being connected in such a manner as to be easily loosened for the purpose of putting on or taking off the truss, or of lengthening or shortening the band. The end to be loosened is secured by passing between the end which is firmly secured to the front pad and the pad, until any one of the adjusting holes in it are brought opposite to the pin or stud affixed to the spring fastening, which, being let go, thus secures it, allowing the band, however, to ply or follow the various muscular movements of the body, thighs, or other parts upon which it rests, without disturbing the pad. In the double truss the connecting band between the front pads may also be made by lengthening the band which surrounds the body, or of an additional piece fastened upon each pad as the single one is, and be allowed the same freedom of motion on each side of it.

I do not intend hereby to confine myself, however, to these two methods only of securing the ends of the bands, but to avail myself of any other method by which the same effect can be accomplished. The back pad or pads may also be made of one piece with the band, or of a separate piece or pieces rivetted or screwed to the band instead of making and fixing them to it moveable, as shewn in the Drawings, and as already described. The use of these back pads is to cause a counter pressure to the front pads, and by their extended surfaces upwards and downwards they materially assist in keeping the front pads in their proper places without the use of any under straps or other galling bandages. The trusses are prevented from pressing upon the spine of the back by curving them outwards in the manner shewn at D, in Figs. 2, 5, and 17.

I shall next describe two machines invented by me for the better giving the requisite curvatures to the trusses.

Fig. 19 is a side view, and Fig. 20 a top view, of a machine for curving the steel bands for the trusses edgeways, and in some degree sideways also. It consists of a cast or wrought iron block X, X, having a rebate formed along it from Y to Y, each end of which is rounded, as shewn in Fig. 19. It has also two or more ears Z, Z, affixed to it, with screwed holes in each for the screws *a*, *a*, to act in, and also two or more holes *b*, *b*, for bolts to pass through, to fix it firmly to the block or wrork-bench. It has also a loose bar *c*, *c*, which is curved, as shewn in Fig. 19, and lies in the rebate above described. There is also a hook *d* affixed to the block, under which hook, and between the bar *c*, *c*, and side of the rebate Y, Y, one end of the steel band, previously heated to a proper degree, is placed, and the screw *a*, next the hook *d*, is turned by means of it's lever until it drives all the parts into contact and retains that end of the band firmly, which is then bent by hammering until it assumes the curvature of the block, when the second screw *a* may be turned to retain it, and also give it a slight degree of curvature sideways. It is then released, and if for a double truss the other end of the band undergoes a similar operation; if for a single one it is not bent quite so much.

It is now ready to be subjected to the operation of another machine, consisting of two cast-iron blocks *e*, *e*, &c., shewn in plan in Figures 21 and 22, and in front in Figures 23 and 24, and forming together a figure resembling that part of the body around which the truss is to be worn. *e*, *e*, &c. are the parts around which the band, after being again heated, is to be coiled. *f*, *f*, are hooks affixed to the blocks, under one of which one of the previously curved ends of the band is to be placed. *g*, *g*, &c. are six or more screws acting in screwed holes made in the ears *h*, *h*, &c. affixed to the blocks. The screw *g*, next to the hook *f*, is to be turned by its handle until it binds the end of the band fast, which is then to be bent round the block until it reaches the next screw *g*, which is also to be turned to bind it fast, and so on till it reaches the last screw on that side of the block or machine. A similar operation performed on the other side completes it. *i*, *i*, are holes for bolts to pass through, to secure the blocks firmly to the work-bench. Previously to using either of those machines they must be heated a little, in order to prevent them from cooling or hardening the bands.

I do not mean or intend hereby to claim as my Invention the use of elastic steel bands for trusses, such being already in use; but I do hereby claim as my Invention the particular curvatures given thereto, the steel band going entirely round the body, and the manner of uniting and securing the ends of it so as to allow of the necessary movements of the body, &c., without disturbing the pad or pads; the manner of forming and affixing the back pads to the band, and, lastly, the machines whereby I give the requisite curvatures to the bands.

In witness whereof, I, the said Owen Griffith, have hereunto set my hand and seal, this Eighteenth day of April, in the year of our Lord One thousand eight hundred and twenty-two.

OWEN (L.S.) GRIFFITH.

AND BE IT REMEMBERED, that on the same Eighteenth day of April, in the year above mentioned, the aforesaid Owen Griffith came before our Lord the King in His Chancery, and acknowledged the Specification aforesaid, and all and every thing therein contained, in form above written. And also the Specification aforesaid was stamped according to the tenor of the Statute in that case made and provided.

J. JEKYLL.

Inrolled the same Eighteenth day of April, in the year above written.

LONDON:
Printed by GEORGE EDWARD EYRE and WILLIAM SPOTTISWOODE,
Printers to the Queen's most Excellent Majesty. 1856.

A.D. 1821. Oct 16. Nº 4600
GRIFFITH'S SPECIFICATION.

FIG. 1

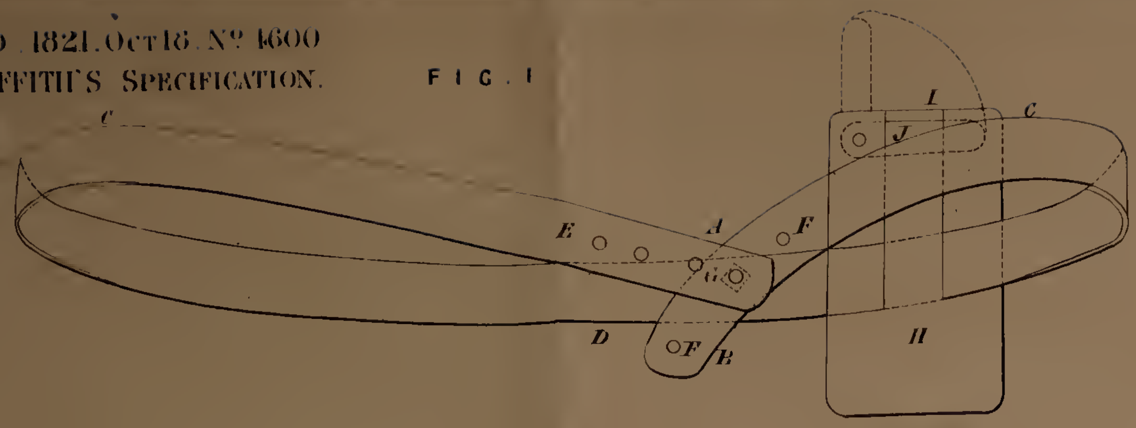


FIG. 3

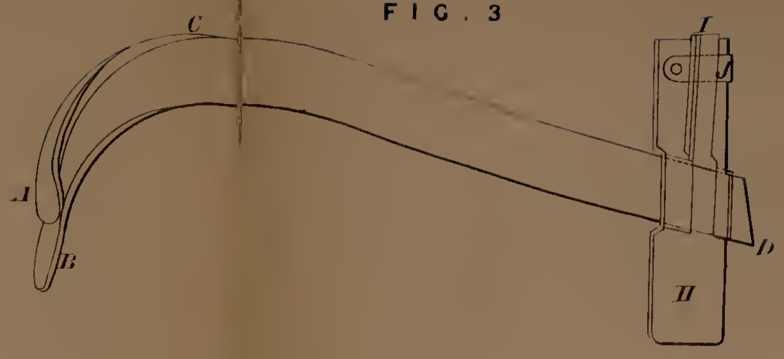


FIG. 18

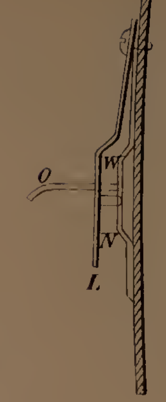


FIG. 2

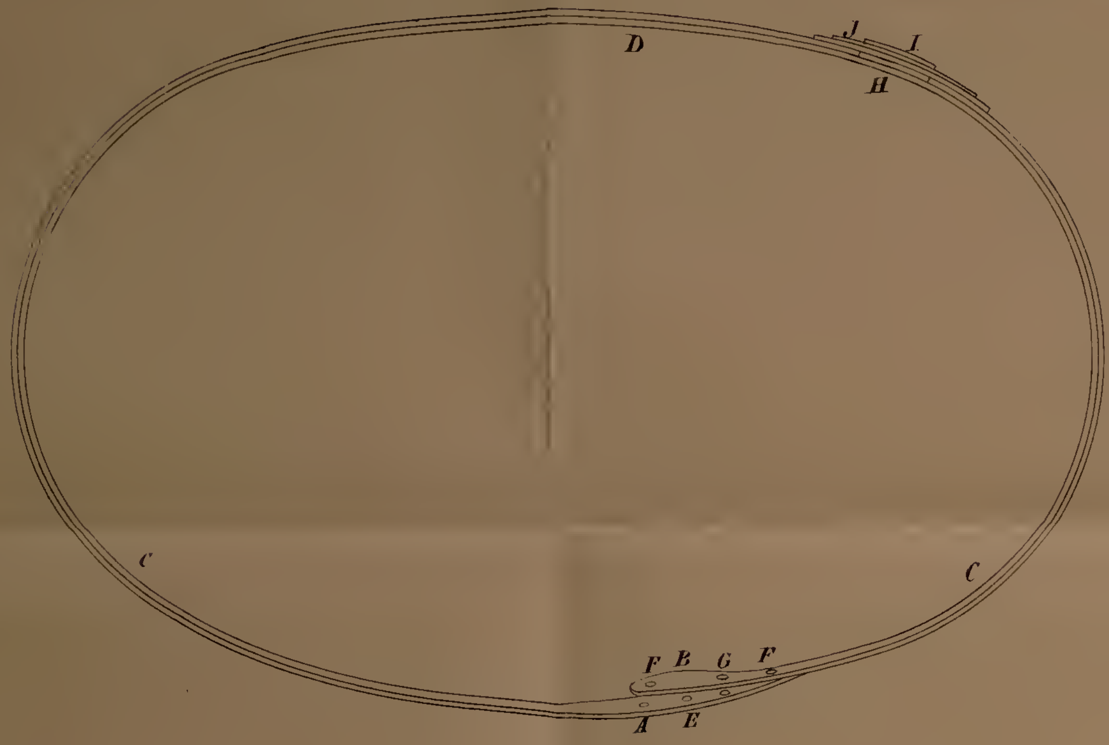


FIG. 5

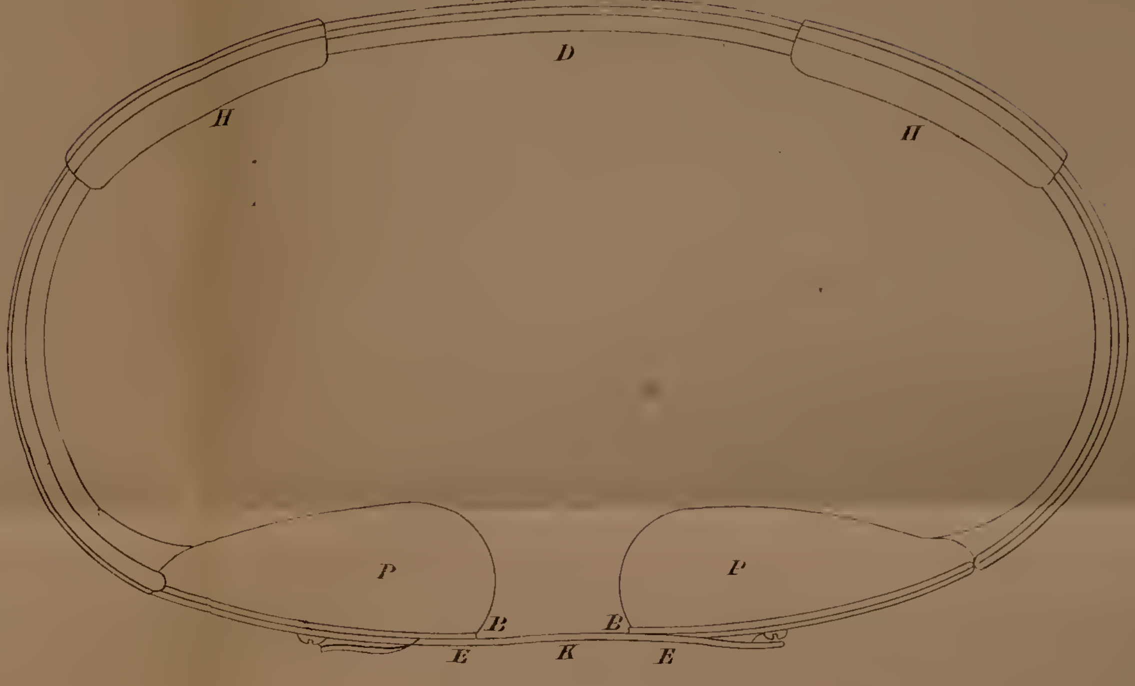


FIG. 4

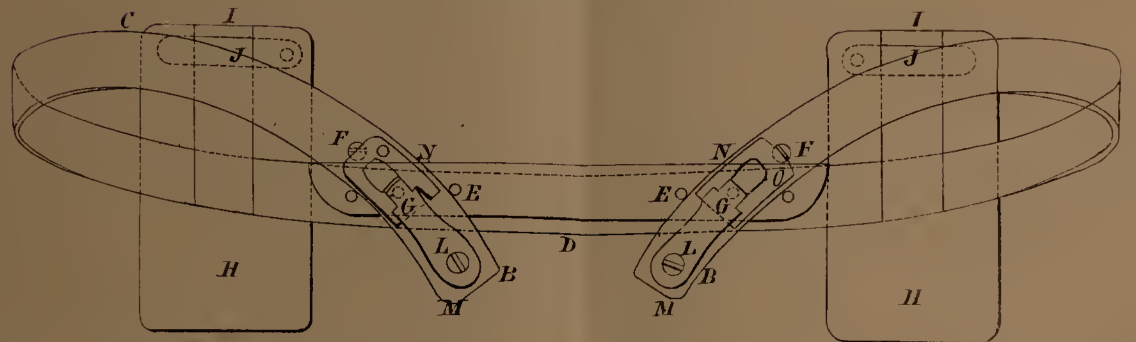


FIG. 6

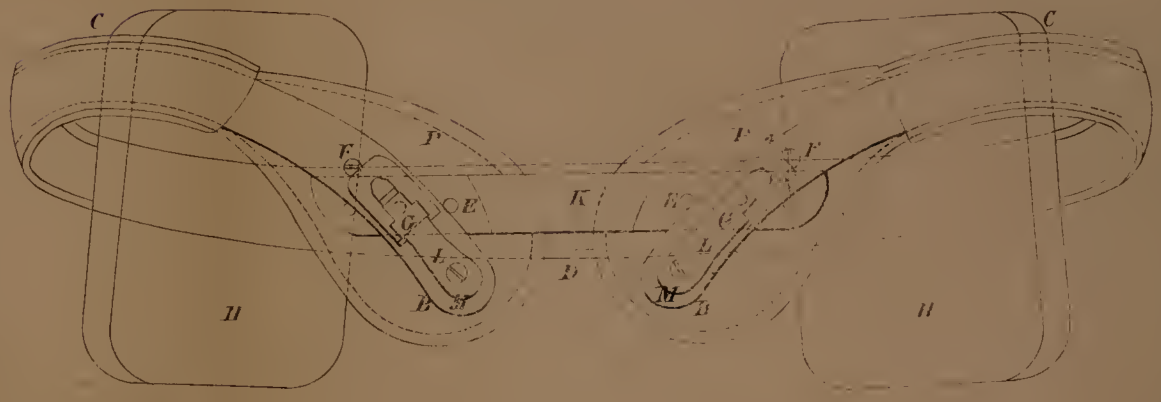


FIG. 7

FIG. 8

FIG. 9

FIG. 10

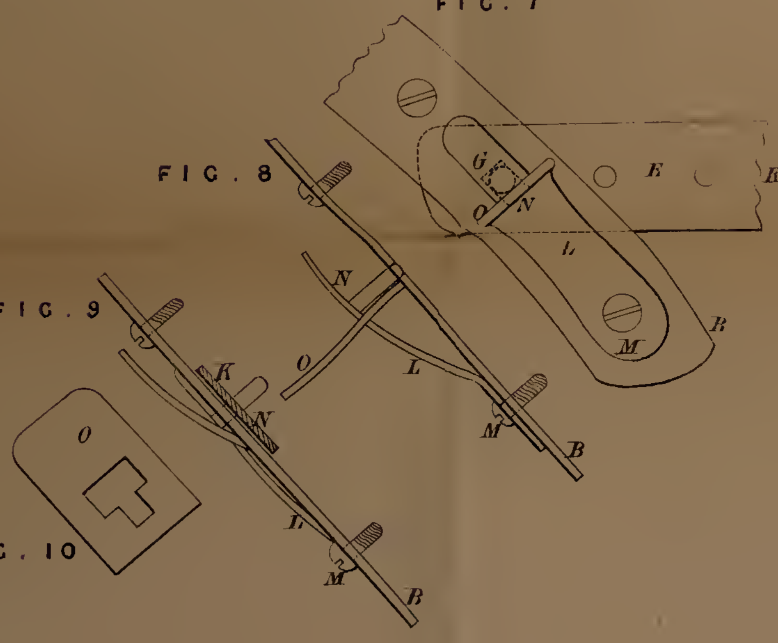


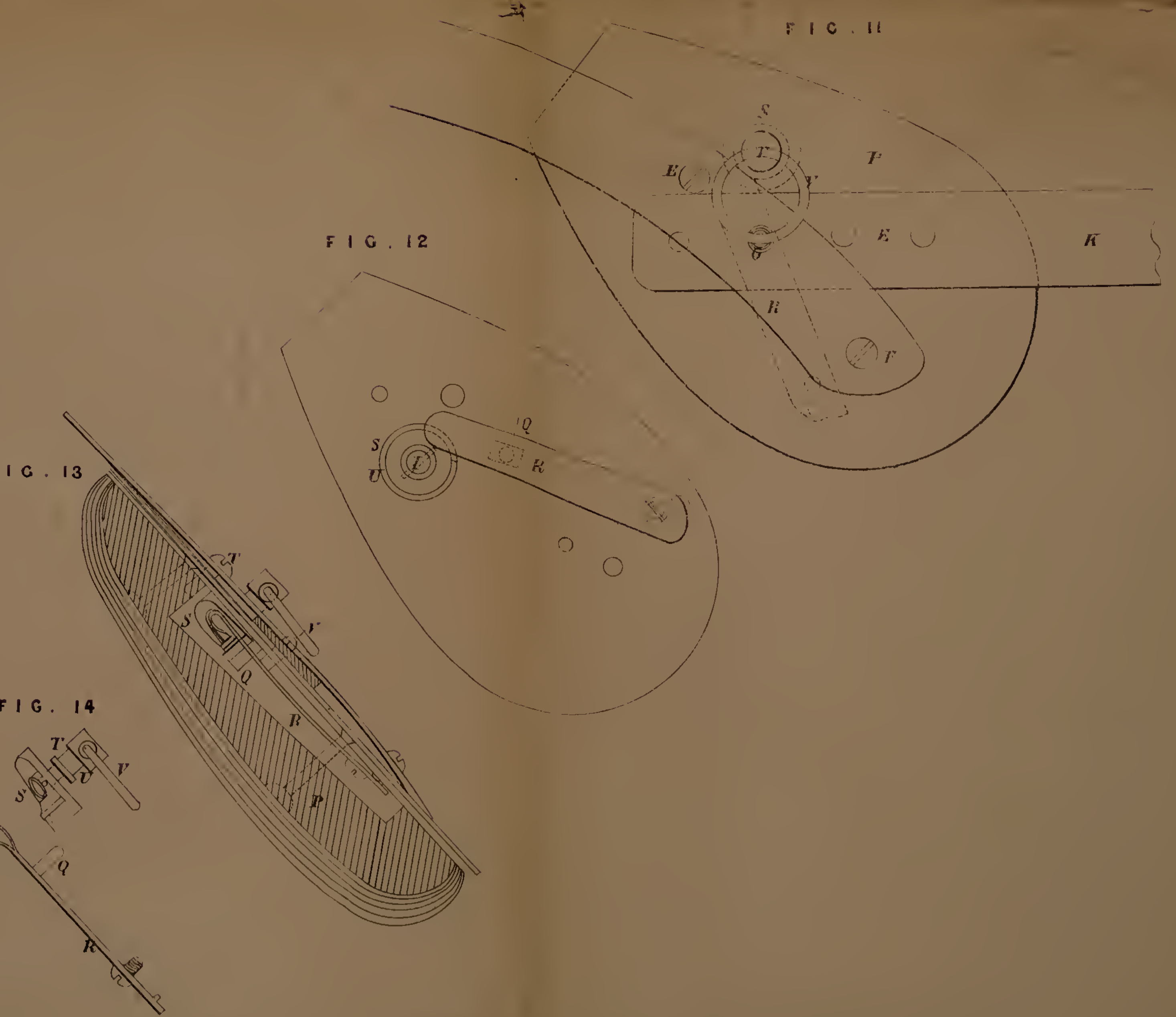
FIG. 11

FIG. 12

FIG. 13

FIG. 14

FIG. 15



The enrolled drawing is colored.

FIG. 16

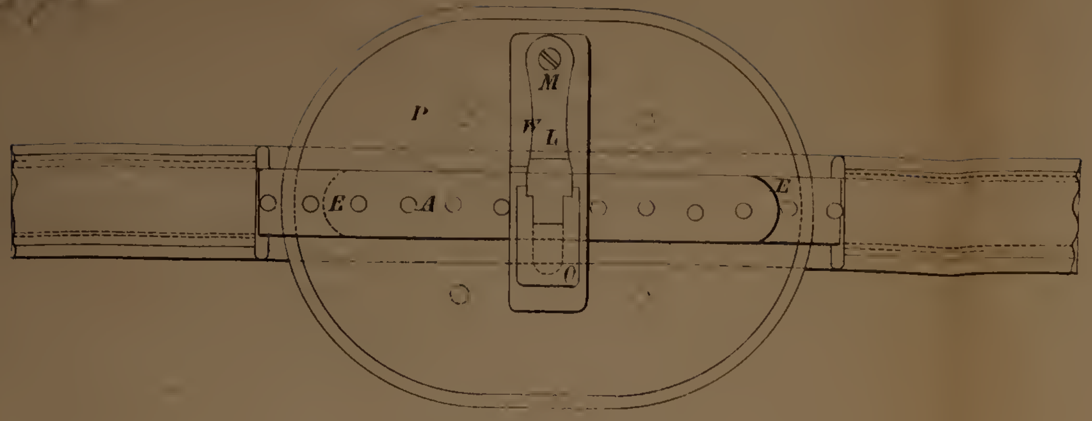


FIG. 19

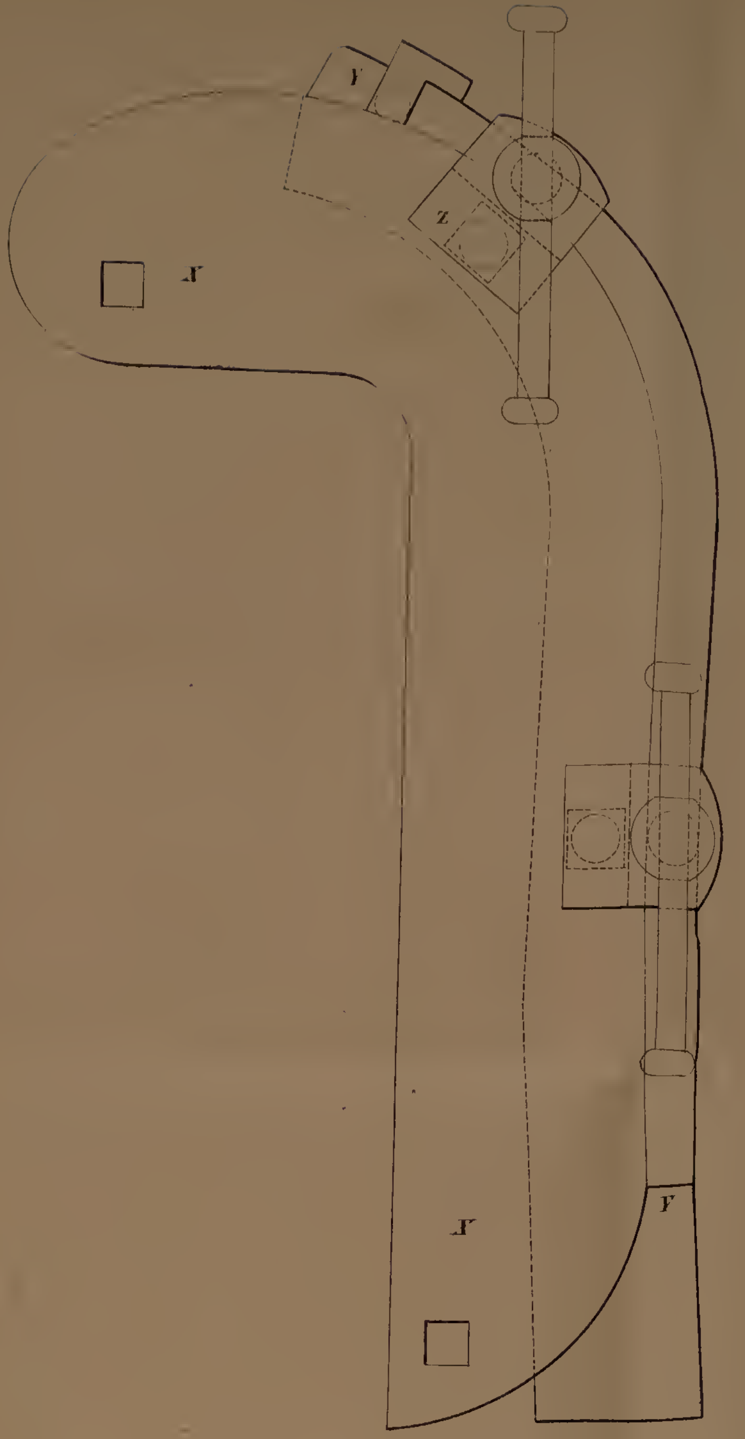


FIG. 20

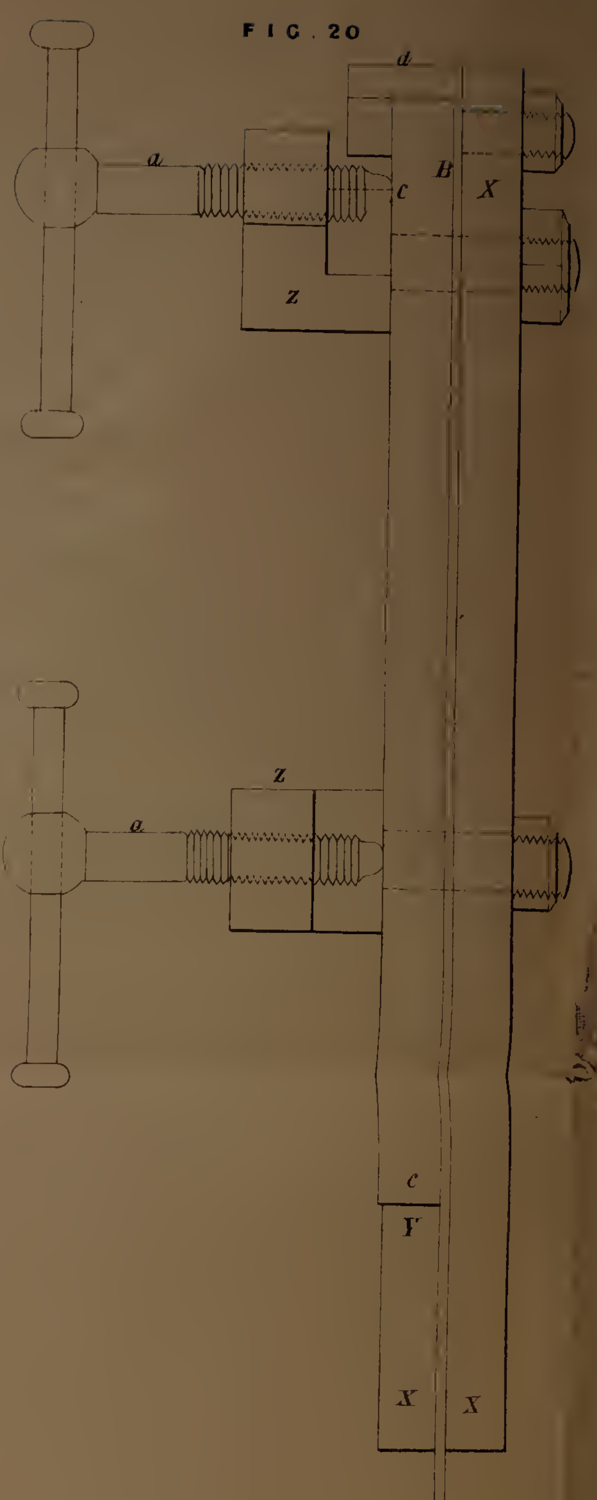


FIG. 17

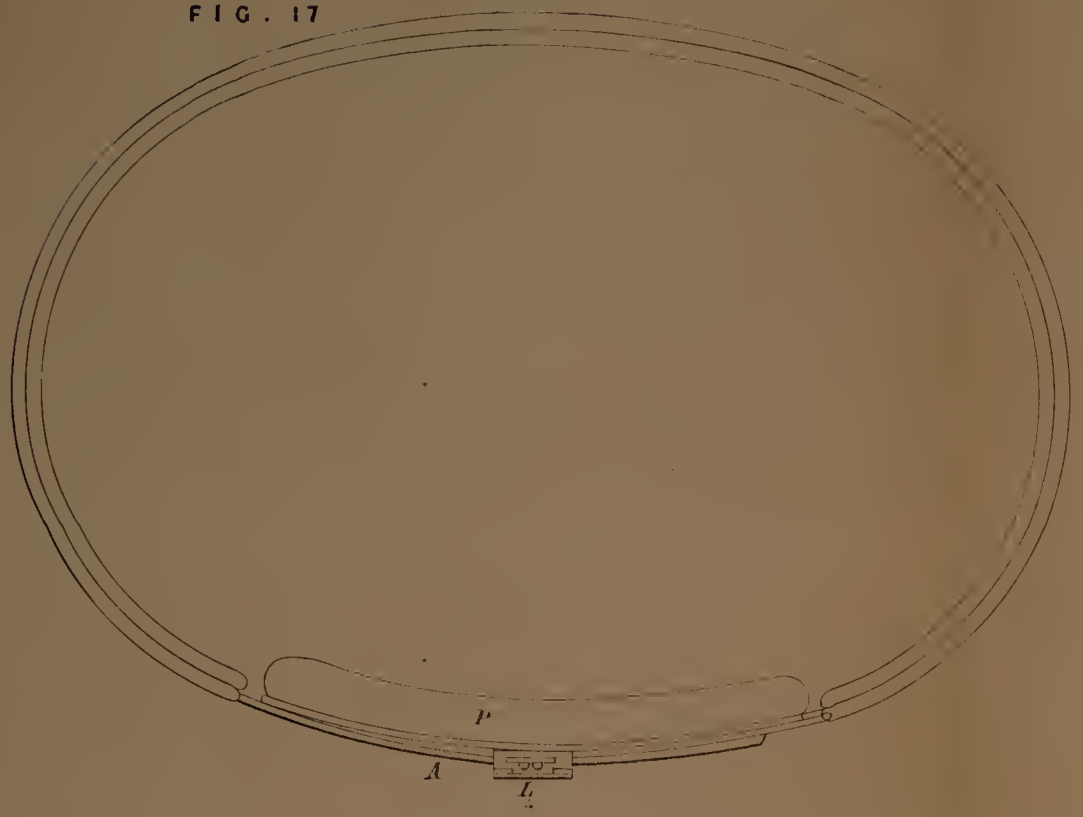


FIG. 23

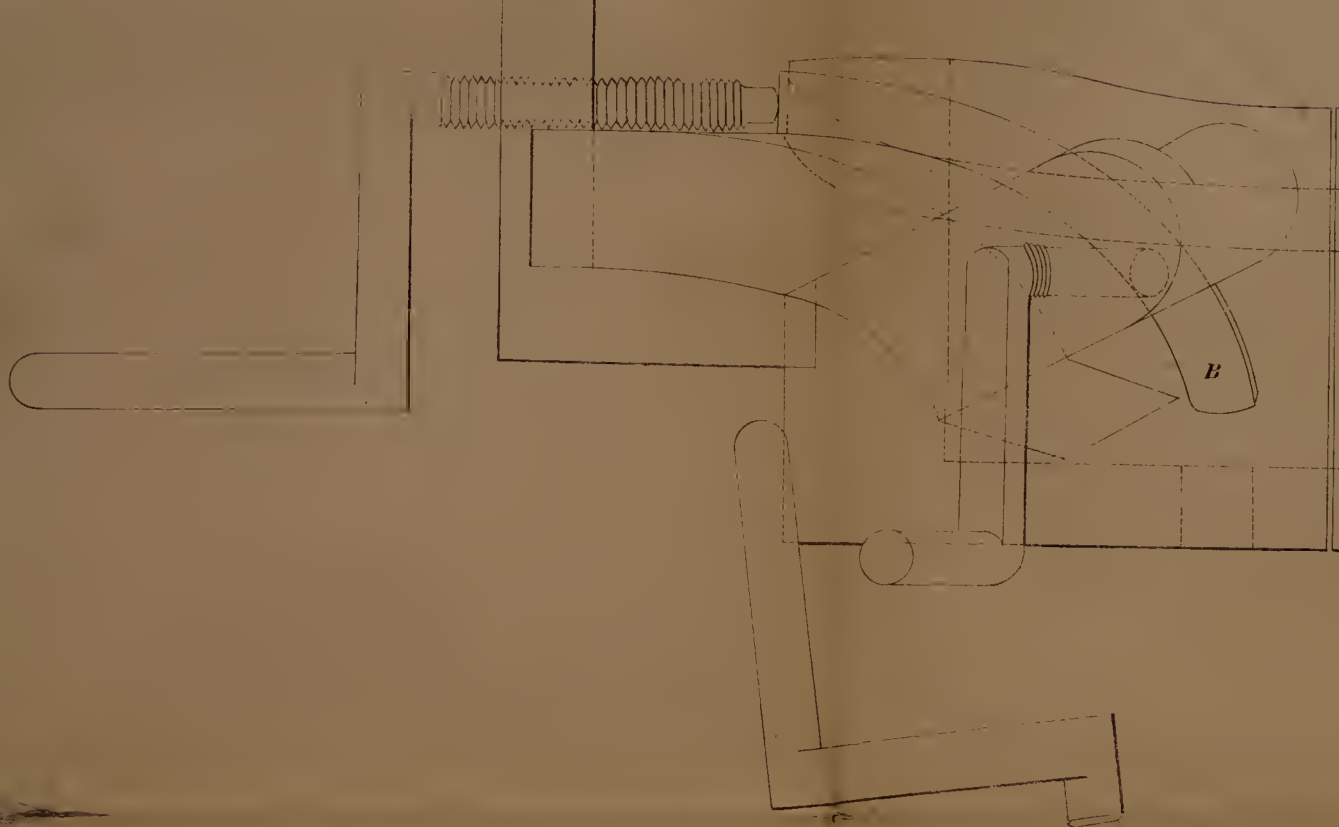


FIG. 24

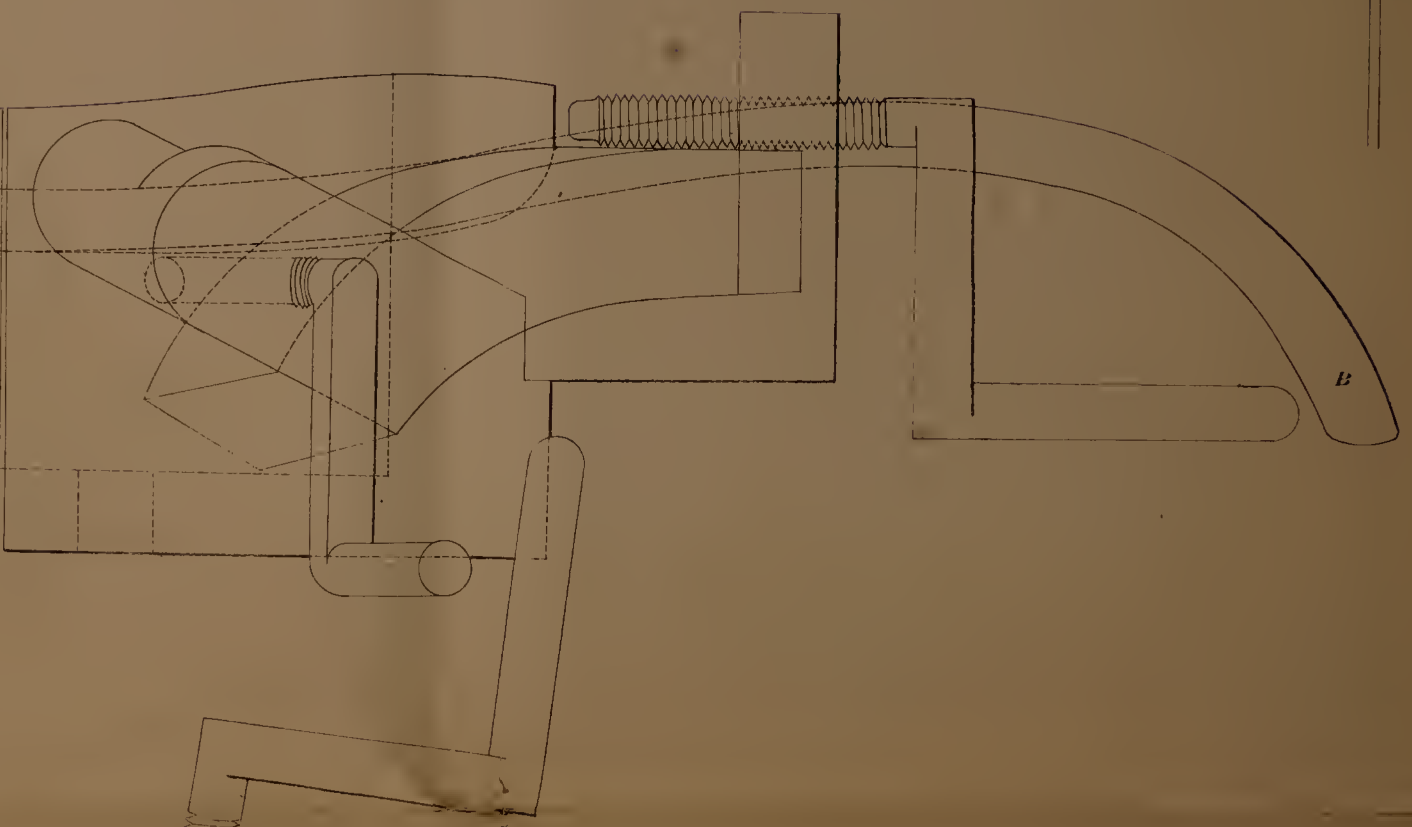


FIG. 21

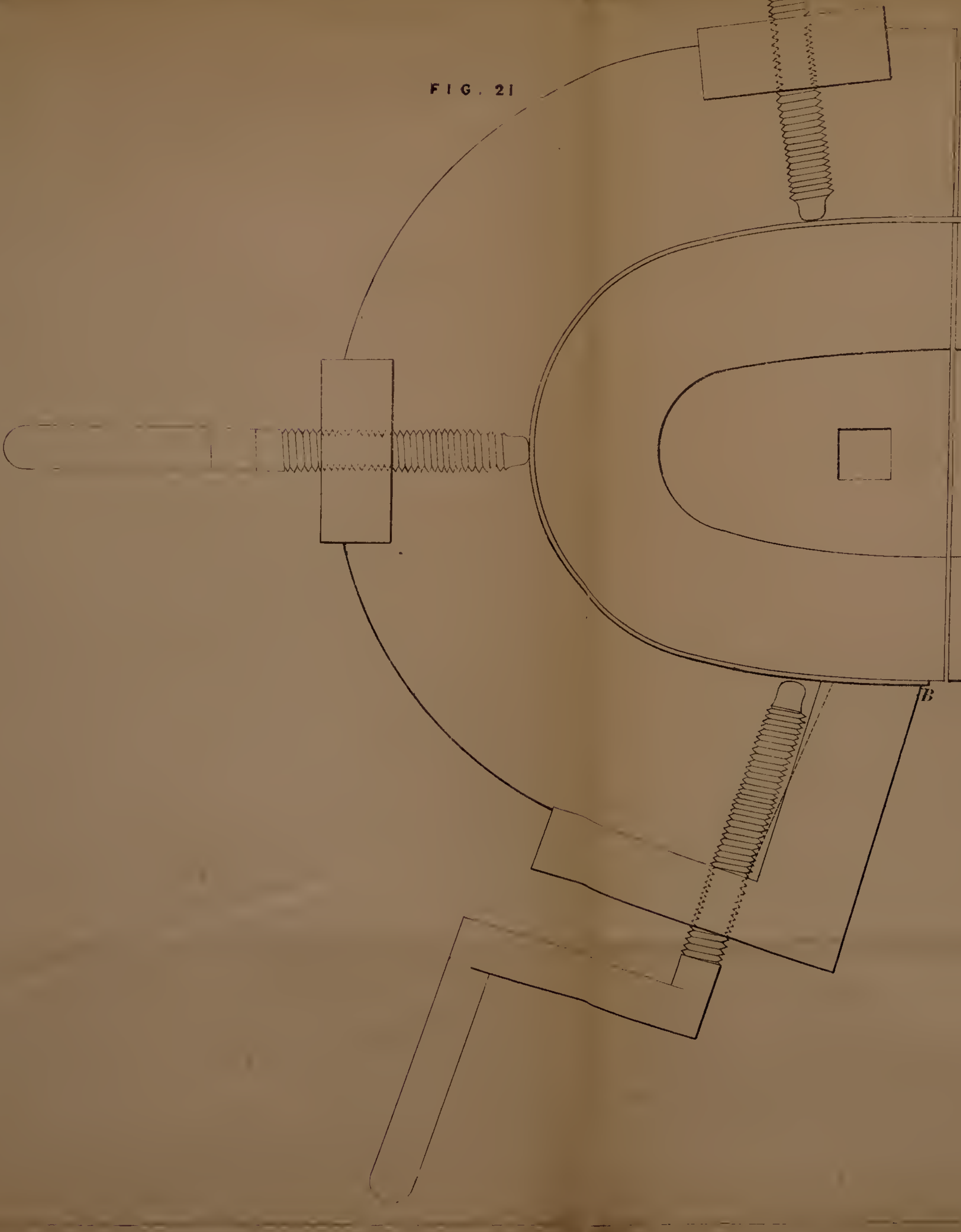
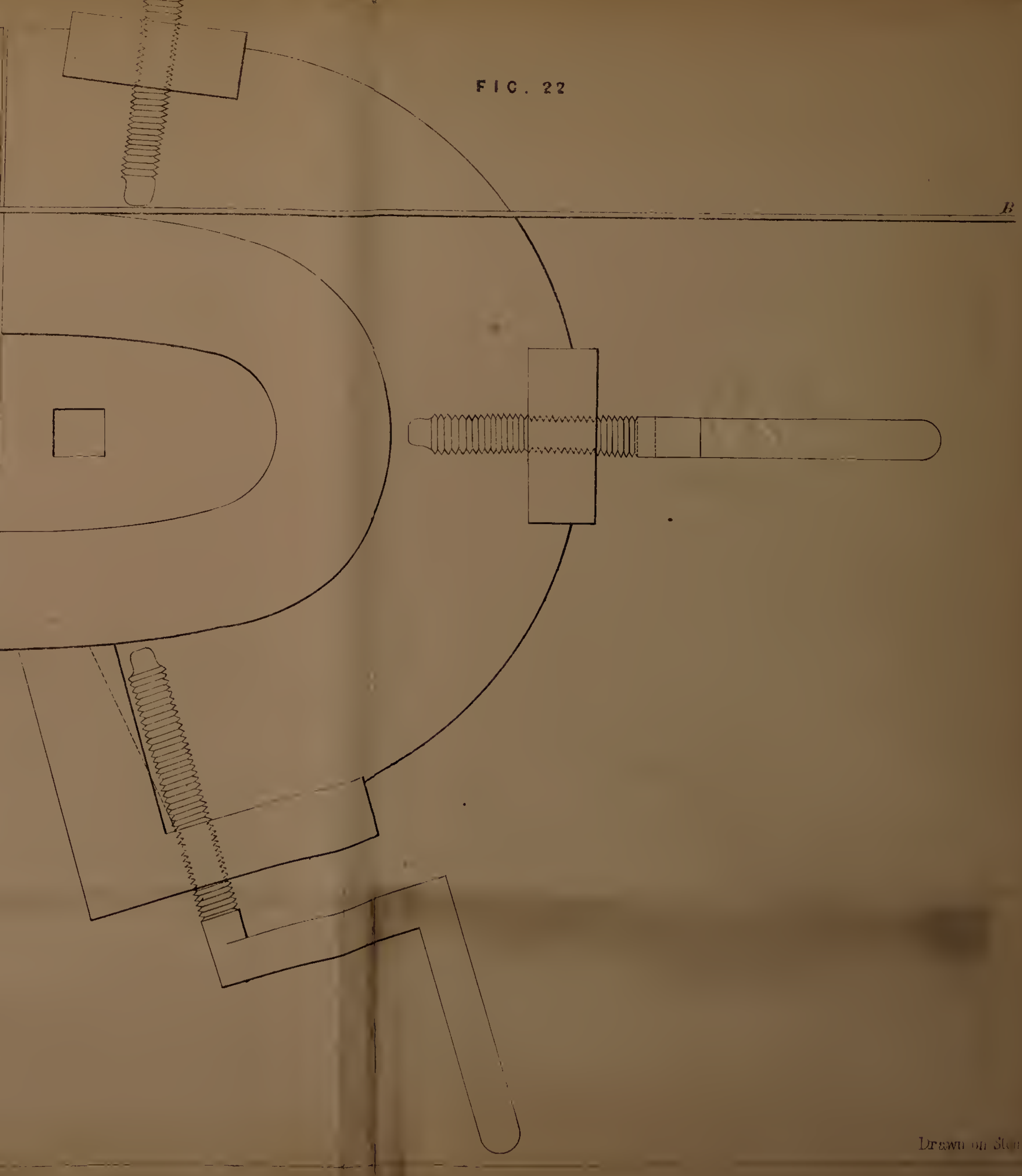


FIG. 22



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